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NOTICE OF ALLOWANCE AND FEE(S) DUE

77541 7590 12/11/2008
Maryam Imam and LSI Corporation
95 South Market Street
Suite 570
San Jose, CA 95113

EXAMINER

LEE, CHUN KUAN

ART UNIT

PAPER NUMBER

2181

DATE MAILED: 12/11/2008

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,488	02/09/2004	Sam Nemazie	SILICONSTOR-01US	1503

TITLE OF INVENTION: SERIAL ADVANCED TECHNOLOGY ATTACHMENT (SATA) SWITCH

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$755	\$300	\$0	\$1055	03/11/2009

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE** OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

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B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

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 95 South Market Street
 Suite 570
 San Jose, CA 95113

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(Depositor's name)
(Signature)
(Date)

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10/775,488	02/09/2004	Sam Nemazie	SILICONSTOR-01/US	1503
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nonprovisional	YES	\$755	\$300	\$0	\$1055	03/11/2009

EXAMINER	ART UNIT	CLASS-SUBCLASS
LEE, CHUN KUAN	2181	710-074000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a **Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
 (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY AND STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
☐ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____
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This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.**

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77541	7590	12/11/2008	EXAMINER	
Maryam Imam and LSI Corporation 95 South Market Street Suite 570 San Jose, CA 95113			LEE, CHUN KU'AN	
			ART UNIT	PAPER NUMBER
			2181	
DATE MAILED: 12/11/2008				

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 266 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 266 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability**Application No.**

10/775,488

Applicant(s)

NEMAZIE, SAM

Examiner

Chun-Kuan Lee

Art Unit

2181

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 09/23/2008.
2. ☒ The allowed claim(s) is/are 1,5-7,9-21,25,26 and 28-45.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 5/9/08 & 9/15/08
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

/Alford W. Kindred/
Supervisory Patent Examiner, Art Unit 2181

DETAILED ACTION

I. ACKNOWLEDGEMENT OF REFERENCES CITED BY APPLICANT

1. As required by **M.P.E.P. 609(C)**, the applicant's submissions of the Information Disclosure Statement dated May 09, 2008 and September 15, 2008 are acknowledged by the examiner and the cited references have been considered in the examination of the claims now pending. As required by **M.P.E.P 609 C(2)**, a copy of the PTOL-1449 initialed and dated by the examiner is attached to the instant office action.

II. EXAMINER'S AMENDMENTS

OPTIONS AVAILABLE TO THE APPLICANT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by **37 CFR § 1.312**. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

AUTHORIZATION FOR THE CORRECTIONS BY THE EXAMINER

3. Authorization for this examiner's amendment was given in a telephone interview with Attorney Maryam Imam, having Reg. No. 38,190, on December 4, 2008. Accordingly, since a complete record of the interview has been incorporated in the instant examiner's amendment, no separate interview summary form is included in the instant office letter **MPEP § 713.04**.

CORRECTIONS MADE IN THE APPLICATION

4. The application has been amended as following:

IN THE CLAIMS:

The below described amendments to the claims are necessary to further clarify the claimed invention.

NOTE: The claims amended by this examiner's amendment have been referred to by their original claim number.

5. In claim 1, "... A switch coupled between a plurality of host units and a device for communicating there between and comprising:

a) a first serial advanced technology attachment (SATA) port including a first host task file, coupled to a first host unit, the first host task file responsive to commands sent by the first host unit, to the device;

b) a second SATA port including a second host task file, coupled to a second host unit, the second host task file responsive to commands sent by the second host unit, to the device;

c) a third SATA port including a device task file, coupled to a device, for causing access, by the first or second host units, to the device, the device operative to support command queuing and operative to generate an original queue depth value indicative of the number of commands that the device can queue from either of the first or second host units; and

d) an arbitration and control circuit coupled to the first, second and third ports, for selecting one of the first host or second host units to concurrently access the device, through the switch, by accepting commands, from either of the first or second host units, at any given time, including when the device is not in an idle state, the arbitration and control circuit being responsive to the original queue depth value and operative to alter the original queue depth value to be a queue depth value that is less than the original queue depth value so that each of the first and second host units is assigned less than the number of commands indicated by the original queue depth value but that the total number of commands that can be queued by the first and second host units remains the same as the original queue depth value thereby misrepresenting the original queue depth value to the first and second host units to be less than that which it is thereby preventing commands being lost by an overrun of the original queue depth value by either of the first or second host units ..." should be replaced with

-... A switch coupled between a plurality of host units and a device for communicating there between and comprising:

a) a first serial advanced technology attachment (SATA) port including a first host task file, coupled to a first host unit, the first host task file responsive to commands sent by the first host unit, to the device;

b) a second SATA port including a second host task file, coupled to a second host unit, the second host task file responsive to commands sent by the second host unit, to the device;

c) a third SATA port including a device task file, coupled to a device, for accessing, by the first or second host units, to the device, the device supports queuing of the commands sent by the first and second host units and generates an original queue depth value indicative of a number of commands that the device can queue from either of the first or second host units; and

d) an arbitration and control circuit coupled to the first, second and third ports, for selecting one of the first host or second host units to concurrently access the device, through the switch, by accepting the commands from either of the first or second host units, at any given time, including when the device is not in an idle state, the arbitration and control circuit being responsive to the original queue depth value and alters the original queue depth value to be a new queue depth value that is less than the original queue depth value so that each of the first and second host units is assigned less than the number of commands indicated by the original queue depth value but that a total number of commands queued by the first and second host units remains the same as the original queue depth value thereby misrepresenting the original queue depth value to the first and second host units to be less than the original queue depth value thereby preventing the commands sent by the first and second host units being lost by an overrun of the original queue depth value by either of the first or second host units ...-.

6. As per claim 4, dependent claim 4 is canceled.

7. In claim 9, line 1, "... in the form of data ..." should be replaced with "... in form of data ...-.
8. In claim 12, line 1, "... in the form of data ..." should be replaced with "... in form of data ...-.
9. In claim 14, line 4, "... for identifying a host ..." should be replaced with "... for identifying either the first or second host unit ...-.
10. In claim 16, line 2, "... second host sends ..." should be replaced with "... second host unit sends ...-.
11. In claim 17, "... wherein the Tag in the native queue command is modified prior to sending to the Device to avoid using the same Tag for both hosts and not to exceed the maximum allowed Tag value ..." should be replaced with
"... wherein a Tag in the native queue command is modified prior to sending to the device to avoid using the same Tag for the first and second host units and not to exceed a maximum allowed Tag value ...-.
12. In claim 18, "... wherein the Tag received in a FIS from the Device is modified to its original value prior to sending the same to the Host ..." should be replaced with

... wherein a Tag received in a frame information structure (FIS) from the device is modified to the Tag's original value prior to being forwarded to either one of the first or second host units ...-.

13. In claim 19, "... wherein the first, second and third ports are level 3 SATA ports and a Data FIS FIFO and an associated FIFO Control are coupled to the first, second and third SATA ports and are located externally thereto ..." should be replaced with

... wherein the first, second and third ports are level 3 SATA ports, and a Data frame information structure (FIS) first-in-first-out (FIFO) circuit and an associated FIFO Control are coupled to the first, second and third SATA ports and are located externally thereto ...-.

14. In claim 20, "... A switch comprising:

a) a first serial advanced technology attachment SATA port including a first host task file for connection to a first host unit, the first host task file responsive to commands sent by the first host unit;

b) a second SATA port including a second host task file for connection to a second host unit, the second host task file responsive to commands sent by the second host unit;

c) a third SATA port including a device task file, for connection to a device, the device operative to support command queuing and operative to generate an original

queue depth value indicative of the number of commands that the device can queue from either of the first or second host units: and

d) an arbitration and control circuit, coupled to the first, second and third SATA ports, for selecting either the first host unit or the second host unit to concurrently access the device, through the switch, by accepting commands, from either of the first or second host units, at any given time, including when the device is not in an idle state, the arbitration and control circuit being responsive to the original queue depth value and operative to alter the original queue depth value to be a queue depth value that is less than the original queue depth value so that each of the first and second host units is assigned less than the number of commands indicated by the original queue depth value but that the total number of commands that can be queued by the first and second host units remains the same as the original queue depth value thereby misrepresenting the original queue depth value to the first and second host units to be less than that which it is thereby preventing commands being lost by an overrun of the original queue depth value by either of the first or second host units ...” should be replaced with

–... A switch comprising:

a) a first serial advanced technology attachment (SATA) port including a first host task file for connection to a first host unit, the first host task file responsive to commands sent by the first host unit;

b) a second SATA port including a second host task file for connection to a second host unit, the second host task file responsive to commands sent by the second host unit;

c) a third SATA port including a device task file, for connection to a device, the device supports queuing of the commands sent by the first and second host units and generates an original queue depth value indicative of a number of commands that the device can queue from either of the first or second host units: and

d) an arbitration and control circuit, coupled to the first, second and third SATA ports, for selecting either the first host unit or the second host unit to concurrently access the device, through the switch, by accepting the commands from either of the first or second host units, at any given time, including when the device is not in an idle state, the arbitration and control circuit being responsive to the original queue depth value and alters the original queue depth value to be a new queue depth value that is less than the original queue depth value so that each of the first and second host units is assigned less than the number of commands indicated by the original queue depth value but that a total number of commands queued by the first and second host units remains the same as the original queue depth value thereby misrepresenting the original queue depth value to the first and second host units to be less than the original queue depth value thereby preventing the commands sent by the first and the second host units being lost by an overrun of the original queue depth value by either of the first or second host units

15. In claim 28, line 1, "in the form of data" should be replaced with -in form of data-.

16. In claim 31, line 1, "in the form of data" should be replaced with -in form of data-.

17. In claim 33, "...A method of employing a switch coupled between a plurality of host units and a device for communicating therebetween, the method comprising:

a) coupling a first serial advanced technology attachment SATA port to a first host unit;

b) coupling a second SATA port to a second host unit;

c) coupling a third SATA port to a device;

d) receiving commands through a first host task file;

e) receiving commands through a second host task file;

f) receiving commands through a device task file;

g) selecting one of the first host or second host units to concurrently access the device, through the switch, by accepting commands, through the first host and second host task files, from either of the first or second host units, at any given time, including when the device is not in an idle state;

h) intercepting an original queue depth value from the device, the queue depth value being indicative of the number of commands that the device can queue from either of the first or second host units; and

i) altering the original queue depth value to be a queue depth value that is less than the original queue depth value so that each of the first and second host units is assigned less than the number of commands indicated by the original queue depth value but that the total number of commands that can be queued by the first and second

host units is the same as the original queue depth value thereby avoiding commands being lost by overrun of the original queue depth value ..." should be replaced with

-... A method of employing a switch coupled between a plurality of host units and a device for communicating therebetween, the method comprising:

a) coupling a first serial advanced technology attachment (SATA) port including a first host task file to a first host unit;

b) coupling a second SATA port including a second host task file to a second host unit;

c) coupling a third SATA port including a device task file to a device, for accessing the device by the first or second host units;

d) receiving commands sent by the first host unit through the first host task file;

e) receiving commands sent by the second host unit through the second host task file;

f) receiving the commands sent by the first and second host units through the device task file;

g) selecting one of the first or second host units by an arbitration and control circuit to concurrently access the device, through the switch, by accepting the commands, through the first and second host task files, from either of the first or second host units, at any given time, including when the device is not in an idle state;

h) intercepting by the arbitration and control circuit an original queue depth value generated by the device, the queue depth value being indicative of a number of commands that the device can queue from either of the first or second host units; and

i) altering the original queue depth value by the arbitration and control circuit to be a new queue depth value that is less than the original queue depth value so that each of the first and second host units is assigned less than the number of commands indicated by the original queue depth value but that a total number of commands queued by the first and second host units remains the same as the original queue depth value thereby misrepresenting the original queue depth value to the first and second host units to be less than the original queue depth value thereby avoiding the commands sent by the first and the second host units being lost by overrun of the original queue depth value by either of the first or second host units ...-.

18. In claim 34, lines 2-4, "... in the form of data, commands or setup, from the device to the first or second host units through the switch and modifying the information prior to the information being received ..." should be replaced with

... in form of data, commands or setup, from the device to the first or second host units through the switch and modifying by the switch the information prior to the information being received ...-.

19. In claim 37, line 2, "... in the form of data ..." should be replaced with -... in form of data ...-.

20. In claim 39, line 2, "for identifying a host" should be replaced with -for identifying either the first or second host unit-.

21. In claim 40, line 2, "... including the step of sending a legacy queue command queued ..." should be replaced with

-... including the step of sending by either one of the first or second host units a legacy queue command queued by the device ...-.

22. In claim 41, lines 2-3, "... including the step of sending a native queue command for execution thereof by the device ..." should be replaced with

-... including the step of sending by either one of the first or second host units a native queue command for execution thereof by the device ...-.

23. In claim 42, lines 2-3, "... wherein modifying the Tag in the native queue command prior to sending to the Device to avoid using the same Tag for both hosts ..." should be replaced with

-... wherein modifying a Tag in the native queue command prior to sending to the device to avoid using the same Tag for both the first and second host units ...-.

24. In claim 43, lines 2-3, "... wherein modifying the Tag received in a FIS from the Device prior to sending the same to the Host ..." should be replaced with

-... wherein modifying the Tag received in a frame information structure (FIS) from the device to the Tag's original value prior to being forwarded to either one of the first or second host units ...-.

25. In claim 44, in line 1, "... wherein the queue depth value reported ..." should be replaced with "... wherein the new queue depth value reported ...-.

26. In claim 45, "... wherein in response to an identify drive command from either of the first or second host units, the arbitration and control circuit is configured to intercept an identify drive response, which is generated by the device in response to the identify drive command, and to replace the original queue depth value with a queue depth value that is no more than one-half that reported by the device ..." should be replaced with

... wherein in response to an identify drive command from either of the first or second host units, the arbitration and control circuit configured to intercept an identify drive response, which is generated by the device in response to the identify drive command, and to replace the original queue depth value with the new queue depth value that is no more than one-half of the original queue depth value that was reported by the device ...-.

III. DISTINGUISHING FEATURES RECITED IN THE CLAIMS

ALLOWABLE SUBJECT MATTER

27. Claims 1, 5-7, 9-21, 25-26 and 28-45 are allowed.

The following is an **Examiner's Statement of Reasons for Allowance**. See
MPEP 1302.14:

28. The primary reason for allowance of claim 1 in the instant application is the combination with the inclusion in the claim that there are "... A switch coupled between a plurality of host units and a device for communicating there between and comprising:

a) a first serial advanced technology attachment (SATA) port including a first host task file, coupled to a first host unit, the first host task file responsive to commands sent by the first host unit, to the device;

b) a second SATA port including a second host task file, coupled to a second host unit, the second host task file responsive to commands sent by the second host unit, to the device;

c) a third SATA port including a device task file, coupled to a device, for accessing, by the first or second host units, to the device, the device supports queuing of the commands sent by the first and second host units and generates an original queue depth value indicative of a number of commands that the device can queue from either of the first or second host units; and

d) an arbitration and control circuit coupled to the first, second and third ports, for selecting one of the first host or second host units to concurrently access the device, through the switch, by accepting the commands from either of the first or second host units, at any given time, including when the device is not in an idle state, the arbitration and control circuit being responsive to the original queue depth value and alters the original queue depth value to be a new queue

depth value that is less than the original queue depth value so that each of the first and second host units is assigned less than the number of commands indicated by the original queue depth value but that a total number of commands queued by the first and second host units remains the same as the original queue depth value thereby misrepresenting the original queue depth value to the first and second host units to be less than the original queue depth value thereby preventing the commands sent by the first and second host units being lost by an overrun of the original queue depth value by either of the first or second host units ..." The prior art of record including the disclosures of Grieff et al. (US Patent 6,961,813), Utsunomiya et al. (US Pub.: 2003/0131166), Ooi et al. (US Patent 6,854,045) and Ooi et al. (US Patent 6,961,787) neither anticipates nor renders obvious the above recited combination. Because claims 5-7, 9-19 and 44-45 depend directly or indirectly on claim 1, these claims are considered allowable for at least the same reasons noted above.

29. The primary reason for allowance of claim 20 in the instant application is the combination with the inclusion in the claim that there are "... A switch comprising: a) a first serial advanced technology attachment (SATA) port including a first host task file for connection to a first host unit, the first host task file responsive to commands sent by the first host unit;

b) a second SATA port including a second host task file for connection to a second host unit, the second host task file responsive to commands sent by the second host unit;

c) a third SATA port including a device task file, for connection to a device, the device supports queuing of the commands sent by the first and second host units and generates an original queue depth value indicative of a number of commands that the device can queue from either of the first or second host units;
and

d) an arbitration and control circuit, coupled to the first, second and third SATA ports, for selecting either the first host unit or the second host unit to concurrently access the device, through the switch, by accepting the commands from either of the first or second host units, at any given time, including when the device is not in an idle state, the arbitration and control circuit being responsive to the original queue depth value and alters the original queue depth value to be a new queue depth value that is less than the original queue depth value so that each of the first and second host units is assigned less than the number of commands indicated by the original queue depth value but that a total number of commands queued by the first and second host units remains the same as the original queue depth value thereby misrepresenting the original queue depth value to the first and second host units to be less than the original queue depth value thereby preventing the commands sent by the first and the second host units being lost by an overrun of the original queue depth value by either of the

first or second host units ..." The prior art of record including the disclosures of Grieff et al. (US Patent 6,961,813), Utsunomiya et al. (US Pub.: 2003/0131166), Ooi et al. (US Patent 6,854,045) and Ooi et al. (US Patent 6,961,787) neither anticipates nor renders obvious the above recited combination. Because claims 21, 25-26 and 28-32 depend directly or indirectly on claim 20, these claims are considered allowable for at least the same reasons noted above.

30. The primary reason for allowance of claim 33 in the instant application is the combination with the inclusion in the claim that there are "**... A method of employing a switch coupled between a plurality of host units and a device for communicating therebetween, the method comprising:**

a) coupling a first serial advanced technology attachment (SATA) port including a first host task file to a first host unit;

b) coupling a second SATA port including a second host task file to a second host unit;

c) coupling a third SATA port including a device task file to a device, for accessing the device by the first or second host units;

d) receiving commands sent by the first host unit through the first host task file;

e) receiving commands sent by the second host unit through the second host task file;

f) receiving the commands sent by the first and second host units through the device task file;

g) selecting one of the first or second host units by an arbitration and control circuit to concurrently access the device, through the switch, by accepting the commands, through the first and second host task files, from either of the first or second host units, at any given time, including when the device is not in an idle state;

h) intercepting by the arbitration and control circuit an original queue depth value generated by the device, the queue depth value being indicative of a number of commands that the device can queue from either of the first or second host units; and

i) altering the original queue depth value by the arbitration and control circuit to be a new queue depth value that is less than the original queue depth value so that each of the first and second host units is assigned less than the number of commands indicated by the original queue depth value but that a total number of commands queued by the first and second host units remains the same as the original queue depth value thereby misrepresenting the original queue depth value to the first and second host units to be less than the original queue depth value thereby avoiding the commands sent by the first and the second host units being lost by overrun of the original queue depth value by either of the first or second host units ..." The prior art of record including the

disclosure(s) of Grieff et al., (US Patent 6,961,813), Utsunomiya et al., (US Pub.:

2003/0131166), Ooi et al. (US Patent 6,854,045) and Ooi et al. (US Patent 6,961,787) neither anticipates nor renders obvious the above recited combination. Because claims 34-43 depend directly or indirectly on claim 33, these claims are considered allowable for at least the same reasons noted above.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chun-Kuan (Mike) Lee whose telephone number is (571) 272-0671. The examiner can normally be reached on 8AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alford Kindred can be reached on (571) 272-4037. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C.K.L./

December 05, 2008

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